

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/743,639A
Source: 1FW16
Date Processed by STIC: 11/1/05

ENTERED



IFW

Fwo

RAW SEQUENCE LISTING

DATE: 11/01/2005

PATENT APPLICATION: US/10/743,639A

TIME: 14:47:43

Input Set : A:\18003-D1 Sequence Listing 20051027.txt

Output Set: N:\CRF4\11012005\J743639A.raw

3 <110> APPLICANT: Bell, John C.
 4 Sonenberg, Nahum
 5 Stojdl, David F.
 6 Brown, Earl G.
 7 Atkins, Harold L.
 8 Marius, Ricardo M.
 9 Lichty, Brian D.
 10 Knowles, Shane B.
 12 <120> TITLE OF INVENTION: ONCOLYTIC VIRUS
 14 <130> FILE REFERENCE: 18003-D1
 16 <140> CURRENT APPLICATION NUMBER: US 10/743,639A
 17 <141> CURRENT FILING DATE: 2003-12-22
 19 <150> PRIOR APPLICATION NUMBER: US 09/664,444
 20 <151> PRIOR FILING DATE: 2000-09-18
 22 <150> PRIOR APPLICATION NUMBER: 60/287,590
 23 <151> PRIOR FILING DATE: 1999-09-17
 25 <160> NUMBER OF SEQ ID NOS: 52
 27 <170> SOFTWARE: PatentIn Ver. 2.1
 29 <210> SEQ ID NO: 1
 30 <211> LENGTH: 11
 31 <212> TYPE: PRT
 32 <213> ORGANISM: Artificial Sequence
 34 <220> FEATURE:
 35 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 36 peptide
 38 <400> SEQUENCE: 1
 39 Cys Thr Thr His Arg His His Thr Ser Asn Cys
 40 1 5 10
 43 <210> SEQ ID NO: 2
 44 <211> LENGTH: 12
 45 <212> TYPE: PRT
 46 <213> ORGANISM: Artificial Sequence
 48 <220> FEATURE:
 49 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 50 peptide
 52 <400> SEQUENCE: 2
 53 Cys Leu Asn Ala His Arg Thr Thr His His His Cys
 54 1 5 10
 57 <210> SEQ ID NO: 3
 58 <211> LENGTH: 11
 59 <212> TYPE: PRT
 60 <213> ORGANISM: Artificial Sequence
 62 <220> FEATURE:

RAW SEQUENCE LISTING

DATE: 11/01/2005

PATENT APPLICATION: US/10/743,639A

TIME: 14:47:43

Input Set : A:\18003-D1 Sequence Listing 20051027.txt

Output Set: N:\CRF4\11012005\J743639A.raw

```

63 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
64     peptide
66 <400> SEQUENCE: 3
67 Cys His Gly Leu His Ser Asn Met Arg His Cys
68   1             5             10
71 <210> SEQ ID NO: 4
72 <211> LENGTH: 9
73 <212> TYPE: PRT
74 <213> ORGANISM: Artificial Sequence
76 <220> FEATURE:
77 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
78     peptide
80 <400> SEQUENCE: 4
81 Cys His His His His Arg Leu Asn Cys
82   1             5
85 <210> SEQ ID NO: 5
86 <211> LENGTH: 9
87 <212> TYPE: PRT
88 <213> ORGANISM: Artificial Sequence
90 <220> FEATURE:
91 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
92     peptide
94 <400> SEQUENCE: 5
95 Cys His Ser His His His Arg Gly Cys
96   1             5
99 <210> SEQ ID NO: 6
100 <211> LENGTH: 9
101 <212> TYPE: PRT
102 <213> ORGANISM: Artificial Sequence
104 <220> FEATURE:
105 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
106     peptide
108 <400> SEQUENCE: 6
109 Cys Trp Asp His His Asn His His Cys
110   1             5
113 <210> SEQ ID NO: 7
114 <211> LENGTH: 9
115 <212> TYPE: PRT
116 <213> ORGANISM: Artificial Sequence
118 <220> FEATURE:
119 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
120     peptide
122 <400> SEQUENCE: 7
123 Cys Asp Asn Asn His His His His Cys
124   1             5
127 <210> SEQ ID NO: 8
128 <211> LENGTH: 10
129 <212> TYPE: PRT
130 <213> ORGANISM: Artificial Sequence

```

RAW SEQUENCE LISTING

DATE: 11/01/2005

PATENT APPLICATION: US/10/743,639A

TIME: 14:47:43

Input Set : A:\18003-D1 Sequence Listing 20051027.txt

Output Set: N:\CRF4\11012005\J743639A.raw

132 <220> FEATURE:

133 <223> OTHER INFORMATION: Description of Artificial Sequence: Synthetic
134 peptide

136 <400> SEQUENCE: 8

137 Cys His His His Arg Ile Ser Ser His Cys

138 1 5 10

141 <210> SEQ ID NO: 9

142 <211> LENGTH: 1269

143 <212> TYPE: DNA

144 <213> ORGANISM: Vesicular stomatitis virus

146 <400> SEQUENCE: 9

```

147 atgtctgtta cagtcaagag aatcattgac aacacagtca tagttccaaa acttcctgca 60
148 aatgaggatc cagtggaata cccggcagat tacttcagaa aatcaaagga gattcctctt 120
149 tacatcaata ctacaaaaag tttgtcagat ctaagaggat atgtctacca aggcctcaaa 180
150 tccggaaatg tatcaatcat acatgtcaac agctacttgt atggagcatt aaaggacatc 240
151 cggggtaagt tggataaaga ttggtcaagt ttcggaataa acatcgggaa agcaggggat 300
152 acaatcggaa tatttgacct tgtatccttg aaagccctgg acggcgctact tccagatgga 360
153 gtatcggatg cttccagaac cagcgcagat gacaaatggg tgcctttgta tctacttggc 420
154 ttatacagag tgggcagaac acaaatgcct gaatacagaa aaaagctcat ggatgggctg 480
155 acaaatcaat gcaaaatgat caatgaacag tttgaacctc ttgtgccaga aggtcgtgac 540
156 atttttgatg tgtggggaaa tgacagtaat tacacaaaaa ttgtcgctgc agtggacatg 600
157 ttcttccaca tgttcaaaaa acatgaatgt gcctcgttca gatacggaaac tattgtttcc 660
158 agattcaaag attgtgctgc attggcaaca tttggacacc tctgcaaaat aaccggaatg 720
159 tctacagaag atgtaacgac ctggatcttg aaccgagaag ttgcagatga aatgggtccaa 780
160 atgatgcttc caggccaaga aattgacaag gccgattcat acatgcctta tttgatcgac 840
161 tttggattgt cttctaagtc tccatattct tccgtcaaaa accctgcctt ccacttctgg 900
162 gggcaattga cagctcttct gctcagatcc accagagcaa ggaatgcccg acagcctgat 960
163 gacattgagt atacatctct tactacagca ggtttgttgt acgcttatgc agtaggatcc 1020
164 tctgccgact tggcacaaca gttttgtgtt ggagataaca aatacactcc agatgatagt 1080
165 accggaggat tgacgactaa tgcaccgcga caaggcagag atgtggtcga atggctcgga 1140
166 tggtttgaag atcaaaacag aaaaccgact cctgatatga tgcagtatgc gaaaagagca 1200
167 gtcatgtcac tgcaaggcct aagagagaag acaattggca agtatgctaa gtcagaattt 1260
168 gacaaatga

```

171 <210> SEQ ID NO: 10

172 <211> LENGTH: 1269

173 <212> TYPE: DNA

174 <213> ORGANISM: Vesicular stomatitis virus

176 <400> SEQUENCE: 10

```

177 atgtctgtta cagtcaagag aatcattgcc aacacagtca tagttccaaa acttcctgca 60
178 aatgaggatc cagtggaata cccggcagat tacttcagaa aatcaaagga gattcctctt 120
179 tacatcaata ctacaaaaag tttgtcagat ctaagaggat atgtctacca aggcctcaaa 180
180 tccggaaatg tatcaatcat acatgtcaac agctacttgt atggagcatt gaaggacatc 240
181 cggggtaagt tggataaaga ttggtcaagt ttcggaataa acatcgggaa ggcaggggat 300
182 acaatcggaa tatttgacct tgtatccttg aaagccctgg acgggtgtact tccagatgga 360
183 gtatcggatg cttccagaac cagcgcagat gacaaatggg tgcctttgta tctacttggc 420
184 ttatacagag tgggcagaac acaaatgcct gaatacagaa aaaggctcat ggatgggctg 480
185 acaaatcaat gcaaaatgat caatgaacag tttgaacctc ttgtgccaga aggtcgtgac 540
186 atttttgatg tgtggggaaa tgacagtaat tacacaaaaa ttgtcgctgc agtggacatg 600
187 ttcttccaca tgttcaaaaa acatgaatgt gcctcgttca gatacggaaac tattgtttcc 660

```

RAW SEQUENCE LISTING

DATE: 11/01/2005

PATENT APPLICATION: US/10/743,639A

TIME: 14:47:43

Input Set : A:\18003-D1 Sequence Listing 20051027.txt

Output Set: N:\CRF4\11012005\J743639A.raw

```

188 agattcaaag attgtgctgc attggcaaca tttggacacc tctgcaaaat aaccggaatg 720
189 tctacagaag atgtaacgac ctggatcttg aaccgagaag ttgcagatga gatggtccaa 780
190 atgatgcttc caggccaaga aattgacaag gccgattcat acatgcctta tttgatcgac 840
191 tttggattgt cttctaagtc tccatattct tccgtcaaaa accctgcctt ccacttctgg 900
192 gggcaattga cagctcttct gctcagatcc accagagcaa ggaatgcccg acagcctgat 960
193 gacattgagt atacatctct tactacagca ggtttggtgt acgcttatgc agtaggatcc 1020
194 tctgctgact tggcacaaca gttttgtgtt ggagatagca aatacactcc agatgatagt 1080
195 accggaggat tgacgactaa tgcaccgcca caaggcagag atgtggtcga atggctcgga 1140
196 tggtttgaag atcaaaacag aaaaccgact cctgatatga tgcagtatgc gaaacgagca 1200
197 gtcatgtcac tgcaaggcct aagagagaag acaattggca agtatgctaa gtcagaattt 1260
198 gacaaatga                                     1269

```

201 <210> SEQ ID NO: 11

202 <211> LENGTH: 1269

203 <212> TYPE: DNA

204 <213> ORGANISM: Vesicular stomatitis virus

206 <400> SEQUENCE: 11

```

207 atgtctgtta cagtcaagag aatcattgac aacacagtca tagttccaaa acttcctgca 60
208 aatgaggatc cagtggaata cccggcagat tacttcagaa aatcaaagga gattcctctt 120
209 tacatcaata ctacaaaaag tttgtcagat ctaagaggat atgtctacca aggcctcaaa 180
210 tccggaaatg tatcaatcat acatgtcaac agctacttgt atggagcatt gaaggacatc 240
211 cggggtaagt tggataaaga ttggtaagtc ttcggaataa acatcgggaa ggcaggggat 300
212 acaatcggaa tatttgacct tgtatccttg aaagccctgg acggtgtact tccagatgga 360
213 gtatcggatg cttccagaac cagcgcagat gacaaatggg tgcctttgta tctacttggc 420
214 ttatacagag tgggcagaac acaaatgcct gaatacagaa aaaggctcat ggatgggctg 480
215 acaaatcaat gcaaaatgat caatgaacag tttgaacctc ttgtgccaga aggtcgtgac 540
216 atttttgatg tgtggggaaa tgacagtaat tacacaaaaa ttgtcgtgctc agtggacatg 600
217 ttcttccaca tgttcaaaaa acatgaatgt gcctcgttca gatacggaac tattgtttcc 660
218 agattcaaag attgtgctgc attggcaaca tttggacacc tctgcaaaat aaccggaatg 720
219 tctacagaag atgtaacgac ctggatcttg aaccgagaag ttgcagatga gatggtccaa 780
220 atgatgcttc caggccaaga aattgacaag gccgattcat acatgcctta tttgatcgac 840
221 tttggattgt cttctaagtc tccatattct tccgtcaaaa accctgcctt ccacttctgg 900
222 gggcaattga cagctcttct gctcagatct accagagcaa ggaatgcccg acagcctgat 960
223 gacattgagt atacatctct tactacagca ggtttggtgt acgcttatgc agtaggatcc 1020
224 tctgctgact tggcacaaca gttttgtgtt ggagatagca aatacactcc agatgatagt 1080
225 accggaggat tgacgactaa tgcaccgcca caaggcagag atgtggtcga atggctcgga 1140
226 tggtttgaag atcaaaacag aaaaccgact cctgatatga tgcagtatgc gaaacgagca 1200
227 gtcatgtcac tgcaaggcct aagagagaag acaattggca agtatgctaa gtcagaattt 1260
228 gacaaatga                                     1269

```

231 <210> SEQ ID NO: 12

232 <211> LENGTH: 1269

233 <212> TYPE: DNA

234 <213> ORGANISM: Vesicular stomatitis virus

236 <400> SEQUENCE: 12

```

237 atgtctgtta cagtcaagag aatcattgac aacacagtca tagttccaaa acttcctgca 60
238 aatgaggatc cagtggaata cccggcagat tacttcagaa aatcaaagga gattcctctt 120
239 tacatcaata ctacaaaaag tttgtcagat ctaagaggat atgtctacca aggcctcaaa 180
240 tccggaaatg tatcaatcat acatgtcaac agctacttgt atggagcatt gaaggacatc 240
241 cggggtaagt tggataaaga ttggtaagtc ttcggaataa acatcgggaa ggcaggggat 300
242 acaatcggaa tatttgacct tgtatccttg aaagccctgg acggtgtact tccagatgga 360

```

RAW SEQUENCE LISTING

DATE: 11/01/2005

PATENT APPLICATION: US/10/743,639A

TIME: 14:47:43

Input Set : A:\18003-D1 Sequence Listing 20051027.txt

Output Set: N:\CRF4\11012005\J743639A.raw

```

243 gtatcggatg cttccagaac cagcgcagat gacaaatggt tgcctttgta tctacttggc 420
244 ttatacagag tgggcagaac acaaatgcct gaatacagaa aaaggctcat ggatgggctg 480
245 acaaatcaat gcaaaatgat caatgaacag tttgaacctc ttgtgccaga aggtcgtgac 540
246 atttttgatg tgtggggaaa tgacagtaat tacacaaaaa ttgtcgtgc agtggacatg 600
247 ttcttccaca tgttcaaaaa acatgaatgt gcctcgttca gatacggaaac tattgtttcc 660
248 agattcaaag attgtgctgc attggcaaca tttggacacc tctgcaaaat aaccggaatg 720
249 tctacagaag atgtaacgac ctggatcttg aaccgagaag ttgcagatga gatgggccaa 780
250 atgatgcttc caggccaaga aattgacaag gccgattcat acatgcctta tttgatcgac 840
251 tttggattgt cttctaagtc tccatattct tccgtcaaaa accctgcctt ccacttctgg 900
252 gggcaattga cagctcttct gctcagatcc accagagcaa ggaatgcccg acagcctgat 960
253 gacattgagt atacatctct tactacagca ggtttgttgt acgcttatgc agtaggatcc 1020
254 tctgctgact tggcacaaca gttttgtgtt ggagatagca aatacactcc agatgatagt 1080
255 accggaggat tgacgactaa tgcaccgcca caaggcagag atgtggtcga atggctcgga 1140
256 tggtttgaag atcaaaacag aaaaccgact cctgatatga tgcagtatgc gaaacgagca 1200
257 gtcatgtcac tgcaaggcct aagagagaag acaattggca agtatgctaa gtcagaattt 1260
258 gacaaatga                                     1269

```

261 <210> SEQ ID NO: 13

262 <211> LENGTH: 1029

263 <212> TYPE: DNA

264 <213> ORGANISM: Vesicular stomatitis virus

266 <220> FEATURE:

267 <221> NAME/KEY: modified_base

268 <222> LOCATION: (1)..(1029)

269 <223> OTHER INFORMATION: "n" represents a, t, c, g, other or unknown

271 <400> SEQUENCE: 13

```

272 tcaatcatat atgtcaacag ctacttgtat ggagcattga aggacatccg gggtaagttg 60
273 gataaagatt ggtcaagttt cggaataaac atcgggaagg caggggatac aatcggaata 120
274 tttgaccttg tatecttgaa agccctggac ggtgtacttc cagatggagt atcggatgct 180
275 tccagaacca gcgcagatga caaatggttg cctttgtatc tacttggctt atacagagtg 240
276 ggcagaacac aaatgcctga atacagaaaa aggctcatgg atgggctgac aaatcaatgc 300
277 aaaatgatca atgaacagtt tgaacctctt gtgccagaag gtcgtgacat ttttgatgtg 360
278 tggggaaatg acagtaatta cacaaaaatt gtcgctgca tggacatggt cttccacatg 420
279 ttcaaaaaac atgaatgtgc ctcgttcaga tacggaaacta ttgtttccag attcaaagat 480
280 tgtgctgcat tggcaacatt tggacacctc tgcaaaataa ccggaatgtc tacagaagat 540
281 gtaacgacct ggatcttgaa ccgagaagtt gcagatgaga tgggtccaaat gatgcttcca 600
282 ggccaagaaa ttgacaaggc cgattcatat atgccttatt tgatcgactt tggattgtct 660
283 tctaagtctc catattcttc cgtcaaaaac cctgccttcc acttctgggg gcaattgact 720
-> 284 gacattgagt atacatctcn tactacagca ggtttgttgt acgcttatgc agtaggatcc 780
-> 285 tctgctgact tggcacanca gttttgtgtt ggagatagca aatacactcc agatgatagt 840
286 accggaggat tgacgactaa tgcaccgcca caaggcagag atgtggtcga atggctcgga 900
287 tggtttgaag atcaaaacag aaaaccgact cctgatatga tgcagtatgc gaaacgagca 960
288 gtcatgtcac tgcaaggcct aagagagaag acaattggca agtatgctaa gtcagaattt 1020
289 gacaaatga                                     1029

```

292 <210> SEQ ID NO: 14

293 <211> LENGTH: 422

294 <212> TYPE: PRT

295 <213> ORGANISM: Vesicular stomatitis virus

297 <400> SEQUENCE: 14

298 Met Ser Val Thr Val Lys Arg Ile Ile Asp Asn Thr Val Ile Val Pro

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 11/01/2005
PATENT APPLICATION: US/10/743,639A TIME: 14:47:44

Input Set : A:\18003-D1 Sequence Listing 20051027.txt
Output Set: N:\CRF4\11012005\J743639A.raw

Please Note:

One or more of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> <223> fields of each sequence which presents at least one n or Xaa.

I#:13; N Pos. 740,798
I#:17; Xaa Pos. 247,266
I#:37; N Pos. 144
I#:42; Xaa Pos. 6,48
I#:44; Xaa Pos. 430
I#:49; N Pos. 3810,3831
I#:51; Xaa Pos. 22,51
I#:52; Xaa Pos. 1270,1277

VERIFICATION SUMMARY

DATE: 11/01/2005

PATENT APPLICATION: US/10/743,639A

TIME: 14:47:44

Input Set : A:\18003-D1 Sequence Listing 20051027.txt

Output Set: N:\CRF4\11012005\J743639A.raw

284 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:720
285 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:13 after pos.:780
512 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:240
515 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17 after pos.:256
1350 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:120
1565 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0
1571 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:32
1764 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:416
2179 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:3780
2641 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:16
2647 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:48
3217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:52 after pos.:1264